

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



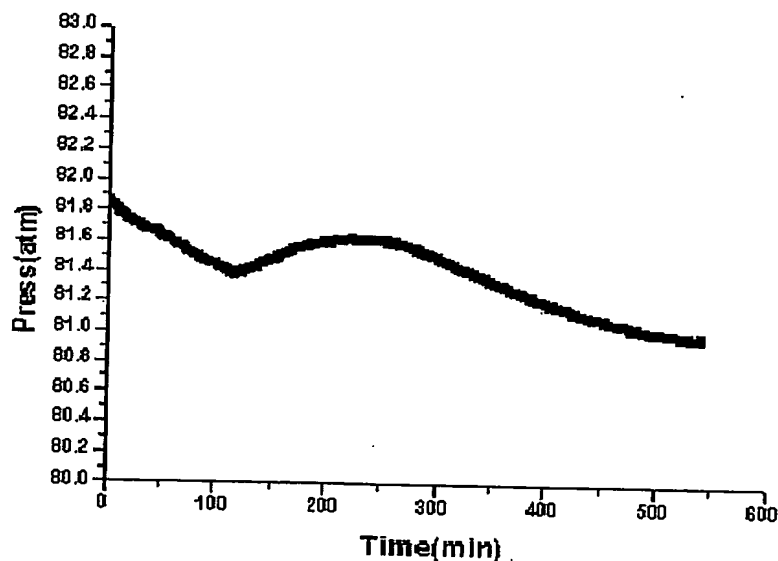
(43) International Publication Date
28 October 2004 (28.10.2004)

PCT

(10) International Publication Number
WO 2004/092052 A1

- (51) International Patent Classification⁷: **B82B 3/00**
- (21) International Application Number:
PCT/KR2004/000887
- (22) International Filing Date: 16 April 2004 (16.04.2004)
- (25) Filing Language: Korean
- (26) Publication Language: English
- (30) Priority Data:
10-2003-0024319 17 April 2003 (17.04.2003) KR
10-2003-0058480 23 August 2003 (23.08.2003) KR
- (71) Applicants (for all designated States except US):
KYUNGWON ENTERPRISE CO. LTD. [KR/KR];
17th Floor, Korean Intellectual Property Center Bldg.,
647-9 Yeoksam-dong, Gangnam-gu, Seoul 135-980 (KR).
**KOREA ADVANCED INSTITUTE OF SCIENCE
AND TECHNOLOGY** [KR/KR]; 373-1 Guseong-dong,
Yuseong-gu, Daejeon 305-701 (KR).
- (72) Inventors; and
(75) Inventors/Applicants (for US only): **WOO, Seong
Ihl** [KR/KR]; 219-601 Family Apt., Munjeong-dong,
Songpa-gu, Seoul 138-200 (KR). **CHOI, Won
Choon** [KR/KR]; #120-1306 Hanvit Apt., Oeun-dong,
Yuseong-gu, Daejeon 305-755 (KR).
- (74) Agent: **HWANG, Eui In**; 10th Floor, Hankook Tire Bldg.,
647-15 Yeoksam-dong, Gangnam-gu, Seoul 135-723 (KR).
- (81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: NANO-STRUCTURED METAL-CARBON COMPOSITE AND PROCESS FOR PREPARATION THEREOF



(57) Abstract: Disclosed are a nano-structured metal-carbon composite and a process for preparation thereof. More specifically, a nano-structured metal-carbon composite is prepared by continuously impregnating a transition metal precursor and a carbon precursor into a nano template and reacting the resultant mixture at high temperature. In the composite according to the present invention, metal is regularly multi-dispersed in a size of less than 1 nano meter, and metal and carbon are chemically bonded, thereby exhibiting the highly excellent hydrogen storage capacity.